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Award named for Kennedy Reed

By Anne M. Stark

NEWSLINE STAFF WRITER

The California Section of the American Physical Society has named a student award for noted Laboratory physicist Kennedy Reed.

During the 2005 fall meeting of the California Section of APS, the Kennedy Reed Award for Best Theoretical Research was given to three graduate students and/or postdoctoral researchers. The award consists of three different cash prizes.

“I’m pleased to have my name associated with an award that encourages students who have an interest in physics,” Reed said. “This prize will recognize students who have excelled in physics.”

The executive committee of the California Section of APS named five new awards after notable physicists. In addition to Reed, awards were named



Kennedy Reed

for Margaret Burbidge, Luis Alvarez, Steven Chu and Charles Kittel. Because the California Section is devoted largely to graduate students and postdoctoral researchers the awards were named after physicists known for their educational outreach.

“We were looking for people who had made outstanding contributions to education,” said Michael Barnett, chair-elect of the California Section of APS. “Kennedy came to our attention as someone who has made contributions to Africa and to education there.”

Reed has contributed significantly to the promotion of physics research and education in Africa. He has developed agreements for exchange of faculty and students between the

See REED, page 7

2005 Gordon Bell prize goes to Laboratory team for pioneering simulations

By Don Johnston

NEWSLINE STAFF WRITER

A team of scientists led by Laboratory physicist Fred Streitz was awarded the 2005 Gordon Bell Prize for pioneering materials science simulations conducted on the world’s fastest supercomputer — BlueGene/L.

The winner was announced at the conclusion of the Supercomputing 2005 conference held Nov. 12-18 in Seattle, Wash. Other team members included James Glosli, Mehul Patel, Bor Chan, Robert Yates and Bronis de Supinski of Lawrence Livermore, and James Sexton and John Gunnels of IBM. The title of their entry was “100+ Tflop/s Solidification Simulations on BlueGene/L.”

Named for one of the founding fathers of supercomputing, the prestigious Gordon Bell Prize is awarded to innovators who advance high-performance computing.

Running a newly developed, three-dimensional molecular dynamics code (ddcMD) on BlueGene/L - the IBM machine that ranks No. 1 on the list of the world’s Top500 supercomputers — the team investigated solidification in tantalum and uranium at extreme temperatures and pres-

See GORDON BELL, page 8

Executive Business Council seeks ideas for Lab operations

The new Executive Business Council is offering an opportunity for employees to share ideas on efficiency and effectiveness for Lab business and operations.

Input may be submitted via the Lab portal page, or to bizideas@llnl.gov. All input will go directly to the council for review and discussion. Similar to the call for input to the Aurora strategic teams, e-mails may be submitted anonymously or with the employee’s name attached. Note: to submit e-mail anonymously employees must use the form on the Lab portal rather than the e-mail address.

“Our council plans to look at a number of cross-cutting operational and business issues,” said Laboratory Services Associate Director Dave Leary, who has been tasked by the director to lead a business restructuring effort.” Over the past few years, we’ve done a great deal to strengthen our operations. During the Aurora process, we heard from a number of employees who identified the need for even more centralized approaches. Our council will look at these ideas and we welcome more input.”

The executive councils were announced by Director Michael Anastasio at his all hands meeting in early November. More information on these efforts will appear in *Newsline* and *NewsOnLine*. The portal may be accessed at <https://www-r.llnl.gov/>

Scientists get precise measure of a basic theory of nature, quantum electrodynamics

By Anne M. Stark

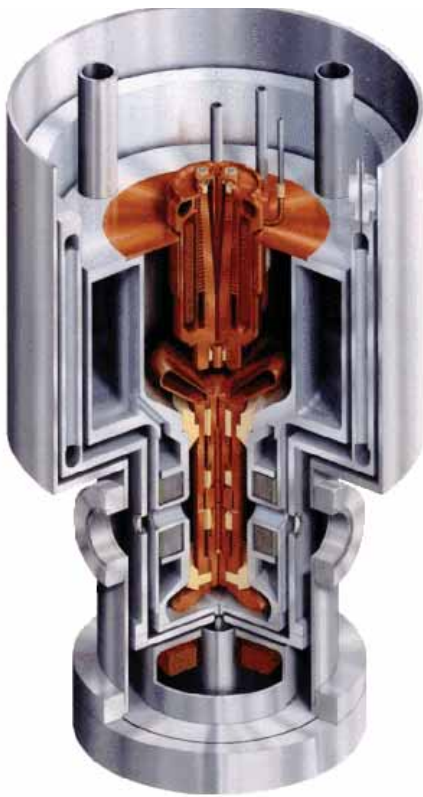
NEWSLINE STAFF WRITER

A new measurement in quantum electrodynamics — an extension of quantum mechanics — is 10 times more precise than any recent measurements.

Quantum electrodynamics, or QED, is one of the most successful theories in physics and considered one of the fundamental theories of nature. QED describes the interaction of matter with photons, in which particles and antiparticles are constantly created and annihilated in electric and magnetic fields — known as a polarized vacuum — and where the electron is surrounded by a sea of photons, an effect that is dubbed the electron’s self energy. QED is the foundation of modern physics and the standard model of particle physics.

Deviations from QED would have far-reaching consequences in our understanding of the universe because it would mean that QED is no longer a fundamental theory of nature.

See MEASUREMENT, page 4



Electron beam ion trap



**Tales from
Lab’s itinerant
retirees**
— Page 2



**DDLS reflects
on Einstein’s
legacy**
— Page 3



**Campaign
enters the
HOME stretch**
— Page 5



LAB COMMUNITY NEWS

Weekly Calendar

Technical Meeting Calendar, page 4

Tuesday
6

Noted physicist Clifford M. Will asks, **“Was Einstein Right?”** at the Director’s Distinguished Lecturer Series at 3:30 p.m. in the Bldg. 123 auditorium. All employees are invited. (For more details, see page 3.)

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Leadership Broadcast Series continues with **“Leadership, Authenticity and Likeability,”** by Tim Sanders, live on Lab TV Channel 4 at 9-10:30 a.m. A group viewing and discussion will be in Bldg. 571, room 2301. Sanders will explore the relationship between authentic leadership and likeability, including the measurable aspects of friendliness, relevance, empathy and realness. For information, call Joanne Olson, 4-5479.

Wednesday
7

Lab employees Celeste Matarazzo (Computation) and Rose O’Brien (DNT/B Division) and Janis Turner, retired Livermore teacher, present **“Cycle USA 4 Hope Tour,”** a recap of their 3,815 mile transcontinental bicycle journey to raise money for the Tri-Valley’s Hope Hospice at noon-1 p.m. in the Bldg. 123 auditorium. For information, call Germaine Clark, 2-1135.

...

The **Brighter Holidays** effort is underway. Currently, 80 families have been placed with Lab groups. Twenty or more needy families still need to be placed. The last date to obtain a family is Dec. 5th. Contact Sherry Pratt, 3-8549.

Delivery of gifts and food by Lab groups is Friday, Dec. 16 at 8 a.m.-noon. Items should be taken to Trailer 6575, near the Discovery Center and accessible from the Uncle Credit Union entrance off Greenville Road. Remember to secure the family name and number on all packages. For questions, call Karen Rosenberg, 2-8551, or Kelly Turner, 3-9944.

RETIREES’ CORNER

Harold Pfeifer (EPD, 1993) and wife, Jan, took a 14-day tour of Turkey starting in Istanbul. Their tour guide was fluent in English, Spanish, and Turkish and held degrees in history and ancient religions; hence, his narratives took on special meaning. Many religions were started, developed, disappeared or continue, in this region.

The Pfeifers saw Ottoman palaces and the two magnificent highway bridges connecting Europe with Asia. In the capital Ankara they visited the Hittite Museum and Anit Kabir, the mausoleum of Atatürk, Turkey’s greatest leader in modern times. Scenic areas near Cappadocia include the volcanic landscapes and the “fairy chimneys.” They saw a religious ceremony performed by the Whirling Dervishes. Nearby is the Zelve Valley, where the scenery is dotted with caves and early dwellings and underground cities. They visited many historic sites including Aspendos (the best preserved Roman theatre in the World), and Troy. The restorations are in very good condition. After 2,400 miles, they returned to Istanbul to see the Blue Mosque, St. Sophia’s Cathedral/Mosque, and the Topkapi Palace, a walled city perched above the Bosphorous and the Golden Horn. It was a wonderful trip that they highly recommend.

Since his retirement, **Steve Mick** (NAI - 2000) and his wife Alicia have been active in many volunteer and community activities. Steve is a member of the Volunteer Trail Safety Patrol (East Bay Regional Park District) educating visitors about park resources, programs, facilities and rules; reports on safety issues, incidents, and

emergencies; and assists at some public events and is also a member of the Tahoe Rim Trail Association. They are both docents at the Blackhawk Museum and lead tour groups through the magnificent automobile collection.

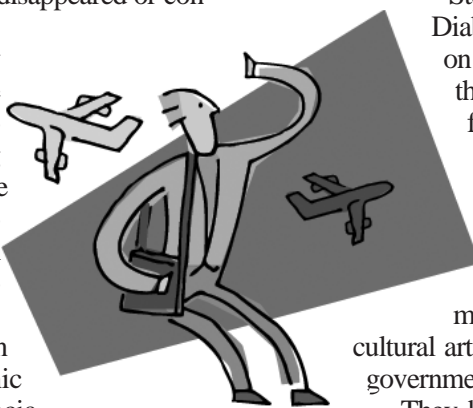
Steve, a woodworker, uses his skills at the Mt. Diablo Habitat for Humanity chapter working on three different projects with a new one on the drawing boards. He is constructing a 20-foot-by-30-foot garage for his 1931 Model-A Ford two-door sedan. He is chairman of Leadership Diablo program, which has monthly all-day seminars on housing, transportation, and infrastructure; education; courts, dispute resolution; media and communication; quality of life; cultural arts; health and human services; and regional government.

They both participate in the Wheelchairs for the World Foundation, which provides wheelchairs to anyone who cannot afford one. Alicia has organized a sorority that collects “feel-good” snack food and other items to ship to our Armed Forces stationed in Iraq and Afghanistan.

They have recently been appointed by the Contra Costa Board of Supervisors to serve on two community advisory committees: the Alamo Beautification Committee and the Alamo Parks and Recreation Committee.

Since December is a very busy month for everyone, there will be no retiree luncheon this month. Monthly luncheons will resume in January. Send input to Jane or Gus Olson, e-mail: AugustO@aol.com or JaneRubert@aol.com. Phone: (925) 443-4349, snail mail address: 493 Joyce Street, Livermore, CA 94550.

Individual input has been edited to fit into this column. For the unabridged version of entries, see the Retirees Web page at www.llnlretirees.org.



IN MEMORIAM

Curtis Sewell Jr.

Curtis Sewell died on Nov. 16. He was 81. Sewell was born on April 14, 1924 in Iowa Park, Texas where he graduated from high school.

He enlisted in the U.S. Army during World War II and was assigned to Los Alamos, N.M. where he worked on the Manhattan Project. At Los Alamos he met his wife, Wanda Beall. They moved to Pearl River, N.Y. in 1957, where he was employed by Isotopes, Inc. designing equipment for the first carbon 14 dating systems in the nation.

In 1962 he moved to Livermore and worked at the Laboratory until his retirement. After retiring, Sewell became a researcher, writer and teacher of the history and teachings of the Bible. He published many articles in related magazines. His first book, “God at Ground Zero,” was published in

1997. A second book, dealing with the historical accuracy of the Old Testament, will be published.

Sewell was preceded in death by his wife, Wanda. He is survived by three sons, Eugene Sewell of Millford Square, Pa.; Jack Sewell of Eureka, Calif.; and Bill Sewell, of Omaha, Neb.; seven grandchildren; and five great-grandchildren.

Services were held in Livermore. Donations in his memory may be made to Hope Hospice in Dublin or Cornerstone Fellowship in Livermore.

Newsline

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Web site: <http://www.llnl.gov/pao/>



LAB TV broadcasts

MONDAY– FRIDAY, DEC. 5-9

For information about Lab TV broadcasting and video production, contact LLTN, 3-3846.



Rebroadcast of Computer Security Day event. Arm yourself with the tools needed to protect yourself against unwanted e-mail, safe Web surfing and more. Cyber security speakers will include:

“How To Deal With Unwanted E-mail” by Matt Myrick

“How To Protect Information” by Sue Smith

“How Safe is Wireless Computing?” by Jody Malik

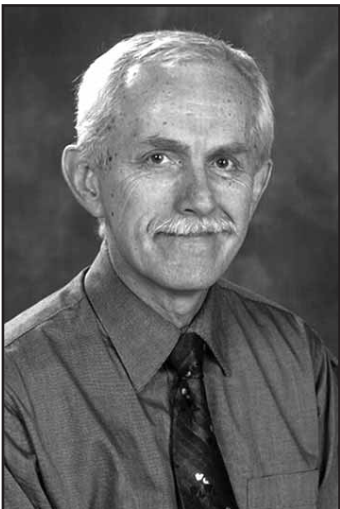
“Safe Web Surfing” by Barry Dahling

Appearing on Lab TV, Channel 2 at 10 a.m., noon, 2, 4 and 8 p.m. and 4 a.m. Friday.

DDLS speaker to ponder, ‘Was Einstein Right?’

Noted physicist Clifford M. Will will deliver a Director’s Distinguished Lecturer Series presentation, “Was Einstein Right?” at 3:30 p.m. Tuesday, Dec. 6 in the Bldg. 123 auditorium. All employees are invited.

How has the most celebrated scientific theory of the 20th century held up under the exacting scrutiny of planetary probes, radio telescopes and atomic clocks? After 100 years, was Einstein right? In this lecture, Will relates the story of testing relativity — from the 1919 measurements of the bending of light to the 1980s measurements of a decaying double-neutron-star system that reveal the action of gravity waves, to a 2004 space experiment to test whether space-time “does



Clifford M. Will

the twist.” Will shows how a revolution in astronomy and technology led to a renaissance of general relativity in the 1960s, and to a systematic program to try to verify its predictions. He also demonstrates how relativity plays an important role in daily life.

Professor Will is the James S. McDonnell Professor of Physics at Washington University in St. Louis. He also serves as president of the International Society on General Relativity and Gravitation and chair of the Science Advisory Committee for Gravity Probe B. His research interests are theoretical, encompassing the observational and astrophysical implications of Einstein’s general theory of relativity, including gravitation-

al radiation, black holes, cosmology, the physics of curved space-time and the theoretical interpretation of experimental tests of general relativity.

Will earned a Ph.D. in physics from the California Institute of Technology in 1971 and became an assistant professor of physics at Stanford University in 1974. He joined Washington University as an associate professor of physics in 1981, becoming a full professor there in 1985. Will has published over 160 scientific articles and two books, including “Was Einstein Right?,” winner of the 1987 American Institute of Physics Science Writing Award. He was elected a fellow of the American Physical Society in 1989, and of the American Academy of Arts and Sciences in 2002. In 2004, he received the Fellows Award of the St. Louis Academy of Sciences.

The presentation will be rebroadcast on Lab TV channel 2 Thursday, Dec. 15, 10 a.m., noon, 2, 4 and 8 p.m., and Friday, Dec. 16 at 4 a.m.



JACQUELINE MCBRIDE/NEWSLINE

Wisdom for the ages

Motivational speaker Cheewa James presented “Climb Off Dead Horses: Mastering Change” Wednesday as part of Native American Indian History Month. James used personal anecdotes along with the age-old philosophy of the Native American, her own heritage, to describe how to achieve change, life balance and combat stress. The talk was sponsored by the Native American Indian Networking Group and the Work-Life Center.

Laboratory archives to show documentary ‘Forward Area Nevada’

The Laboratory’s Archives and Research Center will show a highly-rated documentary on the Nevada Test Site called, “Forward Area Nevada,” at noon Wednesday, December 7, in the Bldg. 543 auditorium.

The 30-minute film was produced by the University of California Radiation Laboratory in 1957 or 1958 and describes the Nevada Test Site, Mercury, and the test procedure for tower, tunnel, and balloon shots.

The movie describes how early tests were set up, how data was gathered, and what life was like at the test site. The film includes spectacular photography of the Test Site as well as some striking examples of ladies’ fashions from the 1950s.

This is an unclassified film and open to all Lab employees and contractors. For more information contact Maxine Trost at 2-6539.

Tips for hacking computer security



JACQUELINE MCBRIDE/NEWSLINE

Barry Dahling, of the Cyber Security Program, spoke about safe Web surfing as part of National Computer Security Day Wednesday. The Laboratory’s computer security program offered a series of brief tutorials to raise awareness of computer security issues and how employees can address them. The presentations will be rebroadcast on Lab TV channel 2. Arm yourself with the tools needed to protect yourself against unwanted e-mail, safe Web surfing and more. Cyber security speakers included:

- “How To Deal With Unwanted E-mail” by Matt Myrick
- “How To Protect Information” by Sue Smith
- “How Safe is Wireless Computing?” by Jody Malik
- “Safe Web Surfing” by Barry Dahling

For more information, check the Computer Security Web <http://www-r.llnl.gov/cso/csoshome.html>



NEWS YOU CAN USE

MEASUREMENT

Continued from page 1

Laboratory scientists have entered a new realm in the search for QED deviations by measuring light they generated in the extreme electric fields surrounding the nucleus of uranium. The group tested the theory using Livermore's SuperEBIT, an electron beam ion trap, to strip uranium of all but three electrons, forming a uranium plasma.

"Now we are in the regime where we see each manifestation of QED interacting with each other and even with itself," said Peter Beiersdorfer, lead author of the paper from Livermore's Physics and Advanced Technologies Directorate. "There is a good analogy from basketball: before, you could see one player at a time, say someone shooting a basket. With the precision we have now, we can see the team actually playing. We see how each player interacts."

The results appear in the December 2 edition of *Physical Review Letters*.

The researchers studied the radiation emitted by these extreme states of matter in a series of experiments over a two-month period conducted on SuperEBIT.

The Livermore group was able to improve the existing experimental precision by nearly an order of magnitude (10 times better). In doing so, the group beat their competitors at the Heavy Ion Research Institute in Darmstadt, Germany, who recently reported a measurement that has only one-hundredth the accuracy needed to be on par with the Livermore measurements.

"This is a new milestone in QED research," Beiersdorfer said. "We are still looking to see whether present-day QED is complete and whether we can find any deviations from it. Nevertheless, we put a new, much more stringent constraint on theory."

Employing high-resolution spectrometers in the experiments, the researchers were the first to take a

direct look at the light emitted by the uranium plasma.

The high precision of the SuperEBIT measurements allowed Beiersdorfer's group to extract an experimental value for the new QED effects, in which the polarized vacuum as well as the self-energy interacted with each other and themselves. Previous measurements only tested the non-interacting manifestations of QED.

"These new results are a major step forward and will stimulate new calculations in QED theory," said Kwon-Tsang Cheng, from Livermore's A Division, who together with Mau Chen of Livermore's V Division and Jonathan Sapirstein from Notre Dame University, have been making calculations for comparison with the SuperEBIT results.

The Livermore team consists of Beiersdorfer, Hui Chen, Daniel Thorn and Elmar Träbert.

Technical Meeting Calendar

Friday
2

PHYSICS AND ADVANCED TECHNOLOGIES/ INSTITUTE FOR GEOPHYSICS AND PLANETARY PHYSICS

"Measuring Black Hole Spin," by Ramesh Narayan, Harvard University. Noon, Bldg. 319, room 205. Property protection area. Foreign national temporary escorted building access procedures apply. Contact: Wil van Breugel, 2-7195, or Lisa Lopez, 3-0250.

ASC ITS LECTURE SERIES

"Dynamic-Data-Driven Computational Decision Support Systems: Opportunities, Enabling Methodologies and Significance," by Professor Charbel Farhat, Stanford University. 2 p.m., Bldg. 543 auditorium. Property protection area. Foreign national temporary escorted building access procedures apply. Contact: David Keyes, 2-1325, or Tiffany Ashworth, 4-3491.

ENERGY & ENVIRONMENT DIRECTORATE

"Seismic Monitoring of CO₂ Plumes in Deep Saline Aquifers: Results from Laboratory Experiments," by Hartmut Schutt, GeoForschungsZentrum, Potsdam. 2-3 p.m., Bldg. 543, room 2074, Vista Room. Property protection area. Foreign national temporary escorted building access procedures apply. Contact: Bill Daily, 2-8623.

LIVERMORE PROJECTS COMMITTEE

"The W80-3 MAC-1 (Materials Aging and Compatibility) Test," by Linda Domeier, Sandia National Laboratories, Livermore and "Pit Manufacturing Development Effort at LLNL," by Mark Bronson, LLNL. 8:15 a.m., Bldg. 132 auditorium. Refreshments available. All attendees must have an SP access card or obtain special approval to attend any meeting. For LLNL, contact Barbara Sherohman, 3-6379, with any SP access questions. For SNL, contact Ann Stayton, 925-294-2582, with any SP access questions. Property protection area. No temporary building access for foreign nationals. Contact: Scott Couture, 3-4100, or Frances Mendieta, 3-7825.

Monday
5

CENTER FOR APPLIED SCIENTIFIC COMPUTING (CASC)INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH (ISCR)

"Finding Patterns in Large, Real Networks," by Christos Faloutsos, Carnegie Mellon University. 10 a.m., Bldg. 451, room 1025, White Room. For more information, go to <http://www.llnl.gov/casc/calendar.shtml>. Property protection area. No temporary escorted building access for foreign nationals. Contact: Tina Eliassi-Rad (CASC), 2-1552, or Erica Dannenberg, 3-2167.

CENTER FOR APPLIED SCIENTIFIC COMPUTING (CASC) INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH (ISCR)

"High-Performance, Power-Aware Computing," by David Lowenthal, University of Georgia, 2 p.m., Bldg. 453, room 1012. For more information, go to <http://www.llnl.gov/casc/calendar.shtml>. Property protection area. Foreign national temporary escorted building access procedures apply. Contact: Bronis de Supinski (CASC), 2-1062, or Erica Dannenberg (ISCR), 3-2167.

CHEMISTRY & MATERIALS SCIENCE

"Femosecond Pulse-induced Ablation Combined with Multiphoton Microscopy to Study Embryo Morphogenesis," by Willy Supatto, Institut Curie & Ecole Polytechnique. 2 p.m., Bldg. 151, room 1209, Stevenson Room. Property protection area. Foreign national temporary escorted building access procedures apply. Contact: Chris Orme, 3-9509, or Kathy Ricard, 3-8024.

Tuesday
6

LIVERMORE COMPUTING LC Customers Monthly Meeting. 9:30 - 11 a.m., Bldg. 453, Armadillo Room Common use facility. Foreign

nationals may attend. Contact: Teresa Delpha, 3-7329.

Wednesday
7

ELECTRONICS ENGINEERING/DEFENSE SCIENCES ENGINEERING DIVISION

"Rethinking Primitives for Sensor Networks," by John Owens. 10-11 a.m., Bldg. 235, room 1090.

Property protection area. Foreign national temporary escorted building access procedures apply. Contact: Annette Freschi, 2-7128, or Randy Roberts, 3-9255.

Thursday
8

CHEMISTRY AND MATERIALS SCIENCE/MATERIAL SCIENCE & TECHNOLOGY DIVISION

"The ABC of X-ray

Absorption Fine Structure (XAFS) Spectroscopy: A Tribute to Dale Sayers - a Modern EXAFS Pioneer," by Joe Wong, 9 a.m., Bldg. 235, room 1090. Common use facility. Foreign nationals may attend. Contact: Paula Peterson, 4-4844.

CENTER FOR APPLIED SCIENTIFIC COMPUTING (CASC) /INSTITUTE FOR SCIENTIFIC COMPUTING RESEARCH (ISCR)

"Linux for Petascale Systems: Fact, Fiction, and the ZeptoOS Tool Set for BlueGene," by Peter Beckman, Argonne National Laboratory. 10 a.m., Bldg. 451, room 1025, White Room. For more information, go to <http://www.llnl.gov/casc/calendar.shtml>. Property protection area. Foreign national temporary escorted building access procedures apply. Contact: David Jefferson (CASC), 2-0463, or Erica Dannenberg, 3-2167.

Friday
9

INSTITUTE FOR GEOPHYSICS AND PLANETARY PHYSICS

"Astrochemistry and Star Formation: Successes & Challenges," by Eric Herbst,

Ohio State University. Noon, Bldg. 219, room 163. Property protection area. Foreign national temporary escorted building access procedures apply. Contact: Wil van Breugel, 2-7195, or Lisa Lopez, 3-0250.

The deadline for the next Technical Meeting Calendar is noon Wednesday.

Please submit your meetings through the Technical Meeting Calendar form on the Web, located at <http://www.llnl.gov/tmc/index.html>

AROUND THE LAB



2005 HOME Campaign nears its final stretch

This is a busy time of year. So, if you haven't yet contributed, don't forget to add "HOME Campaign donation" to your holiday 'to do' list.

There's just one more week left in the campaign to help those in the community who are in need.



The last date to donate is Dec. 9.

The 2005 HOME Campaign is moving steadily toward its goal of more than \$1.6 million. As of this week, employees had donated nearly \$1.3 million.

The HOME Campaign lists an array of agencies that reflect the interests and concerns of Lab employees. These organizations are helping to make a difference. Go to the web at <http://home.llnl.gov/donation/> to scan the more than 400 organizations represented.

Donate now and be a part of the effort that has become a Laboratory tradition.

The HOME incentive program is still going strong



From left: Mike Revelli, Patrick Dempsey, Randy Hurd and Margaret Roelling.

Employees who return their pledge forms may win a prize. Winners are randomly selected from among those returning their forms that week and from those pledge forms received earlier but who have not won a prize.

Electronic donations are automatically entered; there is no need to return a pledge packet. Prizes include gift certificates to restaurants, retail stores and sporting events.

If you donated by Nov. 23, you are eligible for the drawing today, Dec.2. Prize drawings will be conducted until Friday, Dec. 16.

Incentive winners on Nov. 18 were: Patrick Dempsey, Lab Services/ADO, who won a \$30 gift certificate at Chevy's Fresh Mex; Margaret Roelling, SSO/Security Department, who won a \$20 gift certificate at Country Waffles; Michael Revelli, EPD/ORAD, who won a \$30 gift certificate at Chevy's Fresh Mex; and Randy Hurd, EE/LED who won a two bottle gift pack from WenteVineyards.

Incentive winners on Nov. 23 were: Abdul A. S. Awwal, EE/LED, who won a \$10 gift certificate to Alden Lane Nursery; Irene Jones, Biosciences/Biomed, who won lunch for two at Poppyridge; and Howard Wong, Hazards Control/Safety, who won a \$30 gift certificate for Chevy's Fresh Mex.

HOME directorate participation statistics including hurricane relief donations

Directorate	Total employees	No. of contributions	\$ amount donated	Percent participation
Energy & Environment	247	86	37,730	35
Administration & Human Resources	327	143	55,570	44
Safeguards & Security	376	67	26,395	18
Laboratory Services	1,195	228	75,617	19
National Ignition Facility (NIF) Programs	177	78	33,507	44
Chief Financial Officer	104	52	19,616	50
Defense & Nuclear Technologies	377	159	89,397	42
Safety & Environmental Protection	744	287	117,763	39
Computation	1,030	286	167,660	28
Nonproliferation, Arms Control & International Security	242	98	47,795	40
Director's office	161	101	72,464	63
Biology & Biotechnology Research	225	60	24,053	27
Physics & Advanced Technologies	344	160	81,501	47
Engineering	1,978	546	310,695	28
Chemistry & Materials Science	488	154	105,493	32
S/L Vendor	0	0	0	0
Retirees	11	11	5,890	—
Others	79	79	7,635	—
Totals as of Dec. 1	8,105	2,595	\$1,278,782	32
Goal for the 2005 HOME Campaign			\$1.6 million	50



AUTOMOBILES

2005 Yamaha Kodiak 450 Quad, 42/cc engine w/auto trans., independent front & rear suspension, push button 4-wheel drive, green, 45 hours, well maintained, runs great, \$5500.00, (925) 337-4800

2003 - Dodge 1500 4 Door Hemi Express . Lowered Black , fully loaded ,leather interior, bedliner limited edition. 925-525-4278

1995 - Fleetwood Class A Motorhome.25 Foot, 454 chevy engine 50000 miles runs excellent call for pictures 925-525-4278

2000 - Ford Escort Sedan 4D Auto, PS, PW, PDL, AM/FM/CD, air bags, ABS. Warranty until 4/07. 54K. Good condition \$4865/OBO. 925-634-1213

2001 - Silver Hyundai Tiburon, auto, 102,000 miles, pw, pl, a/c, cc, power sunroof, 6 disc changer, accident free, clean title, \$6,000 OBO 925-980-3269

1998 - 1998 GT4.6L Red Ford Mustang (Loaded) low milage.Perfect condition.Blue Book \$9,000.will sell for \$7,500 Firm. 925-516-9678

1997 - El Dorado in beautiful condition. All pwr, tires like new, leather pwr seats, low miles.Garaged. Must see. Just under Blue Book 510-582-2938

1994 - Lexus SC300; Black with tan leather, automatic, RWD, fully loaded; nakamichi sound, 12 CD changer, moonroof, premium wheels. \$4800 OBO. 925-931-0383

1989 - GMC S-15 Jimmy, 4.3L V-6. Runs good, sold as is, registered non-op, no smog cert. \$300 209-239-3833

1997 - Reliable, V6, manual, runs very well. Original owner, driven with care and well-maintained. Going back to school and need to sell. 925-337-5866

1996 - Dodge Grand Caravan, 147K miles, new trans, front & rear a/c, power locks & windows, towing pkg, great condition, \$4500 925-513-1934

1990 - Nissan Sentra, 5 speed, 2-door, current tags, needs engine work, transmission good. \$100. 209-575-0565

1977 - BUICK Skylark. Original Condition. Body good condition. Ext. White. Not running. \$100 or best offer. 209-610-0827

1996 - Bmw 318Ti M3 body kit. M3 rims. 114,000 miles on the body and 60,000 miles on the motor. Runs great. asking 9,000 or best offer. 925-443-4193

1995 - BMW 325i ñ mint condition. <86K. Black, sunroof, leather, power everything, Alpine stereo, BBS 17î wheels, new tires/brakes, heated seats. \$9,900. 408-838-5794

1999 - Chevrolet Tahoe 4 door LT. 4x4, heated leather seats,loaded with everything and much more. 78k miles, excellent condition. \$13000 925-516-8339

2000 - VW Passat GLX V6 86K Silver, 6 disc CD changer,

CLASSIFIED ADS

leather,sunroof, new tires & battery, has all available options,clean, drives great. 9500 OBO 925-200-4241

AUTOMOBILE ACCESSORIES

Toyota Tundra Bed Extender \$275. 209-981-8550

Cooler/warmer, holds up to 6 cans, plugs into vehicle 12V DC power outlet. Paid \$32 plus tax. New in unopened box. Great holiday gift! \$20 925-649-0671

Ford fuel pump, new tire, 205x75x15, Snow tires two for \$25 925-735-6002

14 inch TIRE like new 215/70/R14 GT Roadhugger on mag rim. Just one. Unused. Great real spare, or replacement \$25 OBO 925-447-7070

Yakima Rocket Box Rooftop Carrier, Locks with all attachments \$50. 925-443-4193

BICYCLES

Tag along bicycle in brand new condition, red in color, a great idea for Christmas. \$100 or best offer 925-447-4797

2003 Giant OCR-2 Road bike in excellent condition. Flightdeck, tiagra components. Medium frame. \$429 obo 925-240-7374

Girls pink Giant Taffy bicycle with 18-inch diameter wheels, coaster and hand brakes. Good condition, \$75 or best offer. 925-292-1595

BOATS

2004 - SeaDoo jet skis, pair of 2004 GTX-SC and RXP. Both supercharged with less than 36 hours. \$8,799 each or both for \$17K including \$2K trailer. 209-832-2969

1995 ChrisCraft open bow ski boat, I/O, 5.0L, Tandem Trailer, Cover, Wake Bd. Tower, CD, Bimini Top, Lots of Toys, Great Shape, Winter Pricing, \$10K 510-538-7444

Sea Doo 60 inch round sku tube, 4 padded handles, rugged nylon cover. New in unopened box. Paid \$100 plus tax. Great gift for someone with boat. \$60 925-648-0671

2005 Bayliner 175 Capri, Only 20 hours, brand new condition!! Many extras!! Great all around family boat. \$11,000 209-471-5095

ELECTRONIC EQUIPMENT

New iPod shuffle never been used. 512MB, holds 120songs. 12-hour rechargeable battery. Built-in/USB connector/Lanyard/earphones. \$90.00 OBO 510-792-1538

Dell Dimension P3 650Mhz system, 4.3g 448M RAM, CD \$80 obo. AST 9303 \$10. HP deskjet 693c \$10. 15 inch CRT \$5. 925-337-5622

17in Monitor - Optquest Q71 - excellent condition \$25 925-449-1481

First Alert carbon monoxide alarm and smoke & fire alarm w/battery for each. Plug in, battery back up. Paid \$28 plus tax. New in unopened box. \$15 925-648-0671

Nice starter stereo equipment. Akai stereo cassette deck 50.00, Sony AM FM stereo receiver, 50.00. Excellent condition. Can bring to work. 510-537-7222

CRT Monitor, Dell 17-inch flat screen P780. Excellent condition, has been trouble free. I recently upgraded to an LCD screen. \$40 925-447-7406

EPSON Stylus Color 777 printer. USB & parallel ports. Excellent condition. \$30/obo 925-846-8394

Portable VCR & 4 inch TV screen w/carrying case. Great for entertaining kids on the road. Plugs into cigarette lighter/110 wall outlet. \$40 obo 925-487-4655

Hardly used Dell Inspiron 2650 laptop up for grabs, \$500 obo 650-575-3254

GIVEAWAY

Pre-1960 (antique?) Maytag washer, Gyrator, with a wringer. Still works, will deliver in Livermore/Pleasanton/ Dublin area. 925-462-5122

Ab-Doer exercise equipment in new condition with instructional video. 925-449-5481

White Security Door for front door or side door in garage. 80 x 36. Free. Will bring to Lab or you pick up. 209-892-2214

Free sofa, in pretty good condition. If interested please call. You pick up in Walnut Creek. 925-457-0466

Dining room set. Maple w/ laminate top, early american style. Table is 48 inches by 42 inches. Includes leaf, 2 captains chairs, 4 side chairs. 209-836-4605

2 Computer Desks with keybd trays, 30in wide roll-around solid oak, 5ft wide beech. Both very nice you pick up in Livermore. 925-989-6299

Used Amana Refrigerator/ Freezer frost-free - 18 yrs old, used as garage/soda fridge. Works fine, just not needed anymore. You pick up in Livermore 925-989-6199

HOUSEHOLD

Craftsman 15-inch Wood Lathe, excellent condition, used very little, many extra tools and other pieces included. \$250 925-449-5543

3 Antique Oak Armours Located in Manteca. \$300 ea. b/o 209-606-6445

Gold drapes one-way 9.5ft.x7ft.,2 two-way 13ft.x8ft. and 7.5ft.x7ft.& hardware-\$75. Queen-sofa/ sleeper-Brown/Yellow-\$60.New carpet \$45. 925-447-2282

Appliance set includes 1.7 cubic ft refrigerator, coffeemaker, iron, hotpot & sandwich maker. In unopened box. Paid \$100 plus. Great dorm gift! \$60 925-648-0671

TV/Stereo Cabinet with storage for CDs and Video tapes. Holds 32-inch TV. Solid oak. Made by Hooker. Excellent shape. \$350. 925-937-5083

Furniture-Amish kitchen table/hutch set, cherry dining room set w/6 chairs, pine armoire, pine dresser, walnut buffet. All good condition. 209-835-1128

Wood Ironing Board (old) \$15. Good cond. To store, fold legs and slide in closet. Eves: 925-846-4648

Light oak pedestal dining table with leaf and six chairs and two matching counter stools. Excellent condition, sits 8 comfortably. \$900. 925-443-4903

Two ladies/girl 10k gold rings. Name ring Jessica, \$25 other, Initial ring J - \$10 925-449-6137

Whirlpool Refrig, 19.1 cu. ft., reverseable handles, 65 inches by 32 3/4 inches, cream color. Runs great, very good condition. 80.00 OBO 510-582-2938

Silver plate 5 piece coffee, tea service with case, \$60 and 20 inch round, oval serving trays, \$15 each 925-447-4756

Show Time Rotisserie, in box \$135 Naugahyde, new 54inchx13feet \$35 925-735-6002

Area Rug: Handsome, custom ordered brick-color octagonal rug (7ft across) in great shape. Has one white 2in wide stripe. \$75.00. 925-449-5661

Maytag dishwasher \$50, GE microwave \$25, glasstop electric range \$100, Admiral sideby-side fridge \$75. Black except fridge. Sold together/separately. 209-475-9494

CARDBOARD BOXES, STURDY for moving/storage, folded flat for easy loading: 40 for \$50 925-447-7070

White iron daybed with trundle and mattresses. Excellent shape \$150 obo 925-292-2828

Kirby G6 2001 vacuum cleaner with attachments. Hardly used. \$125 Firm. 209-239-3833

Refrigerator- GE Profile side by side. In-door ice & water, black exterior. Great condition. \$75.00 209-833-6228

Oak table & 6 chairs, hutch; oak coffee table & 2 end tables. Excellent condition. 925-455-6909

Sears Table saw and unused replacement blades. \$50 takes all. 925-449-9423

Parquet formal dining table, off white cushions on chairs, good condition, with leaf, seats six. \$599. 925-249-1786

Antique Oak Buffet, drawers & cabinets \$400. Couch & Loveseat, Dark green floral w/Oak Trim, Clawed Legs (antique repro) Gorgeous \$500, pics 209-239-7576

Outdoor carpet, approx 12x24 feet, edges bound, gray slate color, good condition \$100 925-634-1769

SAT Study Guide for March 05 and beyond. New \$10 209-403-4942

Living room 10-piece set, like new, Southwestern pattern, couch, chair, loveseat, lamps, 5 oak tables. \$900 OBO. 209-575-0565

CRYSTAL, Claudia pattern, sets of 6 & 12, wine, goblets, flutes. Serving bowls, platters, and more to match. \$250 OBO 209-575-0565

Two locking filing cabinets, 26 1/2 in. deep by 52 in. high by 15 in. wide. Will deliver. 925-429-0363

Christmas Tree Stands, sturdy, attractive, holds up to 6 inch diameter trunk x 10 feet tall tree in water. \$20+ Value for \$12 each. 925-634-0868

Craftsman gas lawnmower, like-new condition, 3 years old, manual, 22 in. cutting width, side discharge or mulching, works perfectly, \$75. 925-443-1279

GE 25cbft white refrigerator used only 3 weeks. Almost brand new w/5 yr warr. paid 1K, sell \$650OBO 209-321-1506

Fine oak pedastal dining table with (2) leaves and (4) arm chairs \$350. (3) bar stools with backs \$150. 925-516-3759

LOST & FOUND

Found--Sunglasses, mirrored,(Uvex Tomcat), in T2529.Found during or near week of 11/14-18. Call 2-3404. 925-443-1986

Found mens wedding ring in parking log south of T3520. Call to identify and it's yours. 209-835-3782

Cell phone found in B511. Call 26755 to identify

Found ring in B543 parking lot. Call to identify. 925-243-1959

LOST:(In or around bldg 453 parking lot,Dimond diner ring, gold with a cluster of 20 small dimonds pls page me@07605 or call 209-956-1651

MISCELLANEOUS

Christmas Boutique - Sat. 12/3 from 10am-4pm. West Valley Christian Academy, 1790 Sequoia Blvd., Tracy 95376 (cross streets: 11th St. & Alden Glenn). 209-832-4072

2 Niners tix for sale, vs Texans. Date January 1st. \$50 for both. 415-673-9546

Mens cowboy boots by Justin Assorted colors Lizard skin Sz 10D \$50/pr., Chest freezer \$50, Down sleeping bags \$25 (2 to sale) 925-426-6746

Craftsman 10-inch Radial Arm Saw, 220v (can be switched back to 110v), with lots of extras, excellent condition. \$300 925-449-5543

Ladies cowboy boot ACME brand, bone colored wing tips size 7.5 medium, in Good shape. \$40. 925-447-4797

Reloading equipment. MEC 600 Jr press with Tons of accessories. Call for details. \$90 obo 925-240-7374

Disney Princess Castle play home. Includes flap door, inflatable cushion, rods, easy assembly. Paid \$80. New in unopened box. \$50 925-648-0671

Would like to find a hydraulic log splitter at a reasonable price. 510-368-1969

Unique flatware, 9 piece place setting for 12 plus 8 serving pieces, Bronzeware with black water buffalo horn handles from Bangkok circa 1960s \$250 925-447-4756

SF 49ers vs. Houston New Years Day!! Upper Reserved, Sec 38, Row 10, Seats 1&2 \$128/pair of tickets (face value) 209-599-9942

REED
Continued from page 1

United States and African institutions, and has been a strong advocate for increased U.S. and international involvement with physics in Africa.

Reed worked as a visiting scientist at universities in the West African countries of Senegal and Ghana during the summers of 1997 and 1999. He also has made scientific visits at institutions in Botswana, Benin, Namibia, Nigeria and South Africa, and has organized several international

physics conferences in Africa. He was the recipient of the American Physical Society’s 2003 John Wheatley Award.

The John Wheatley Award is given to a physicist who, working in a developing country, has made an outstanding contribution to the development of physics in that region by working with local physicists in research or teaching. This was the first and only time the award has been given to a physicist for work in Africa.

Reed also has been active in U.S. programs that provide opportunities for students in the physical

sciences, and a leader in national efforts to increase minority participation in physics.

“He really stood out easily in this group of people,” Barnett said. “He’s obviously a benefit to physics students. It was an easy choice in this case.”

Reed is a researcher in V Division of the Physics and Advanced Technologies Directorate, and also director of the Research Collaborations Program for Historically Black Colleges and Universities & Minority Institutions (HBCUs and MIs), which is within the Laboratory’s University Relations Program.

CLASSIFIED ADS

Carseat - Britax Super Elite, blue, \$175. Toddler Bedding Set, \$50. High Chair, \$8. Baby carrier backpack, \$8. Baby Bjorn baby carrier, \$4. 925-462-7467

Custom sectional sofa; computer desk;hope chest; drop leaf table & 4 chairs. Excellent condition. 925-455-6909

Tickets (3Adult/2Child) for five consecutive days to SeaWorld San Diego, SD Zoo and SD Wild Animal Park. Paid \$1000; Accept best offer. 209-836-4788

Pine Armoire, French country style, honey color, good condition, \$250.00 925-443-3775

NORITAKE CHINA, service for 16, green/gold trim, over 100 pieces including serving dishes. Matching green water goblets. \$350 OBO. 209-575-0565

Silver Fox fur jacket, womens size 10. \$1000 new - sacrifice \$500 OBO. 209-575-0565

Portable VCR & 4 inch TV screen w/carrying case. Great for entertaining kids on the road. Plugs into cigarette lighter/110 wall outlet. \$40 obo 925-487-4655

DisneyLand Passes. 2 x Two-Day Park Hopper Passes. Passes are good until 1/2/06. \$90.00 each OBO. 925-321-6102

Exercise Bike Uprite Deluxe Life Gear MODEL# 22300 less than (1)Year old.Asking Price \$90.00 510-793-4711

MOTORCYCLES

1997 - Trackmagic racing go-Kart. Yamaha Kt-100 motor with pipe. Very fast. \$1600.00 925-784-5133

1996 - Emmick Cadet Racing go-Kart. Yamaha Kt-100 motor with pipe. For child 9yrs to 12yr. Child better know how to drive. Very Fast! \$1600.00 925-784-5133

2003 - Suzuki RM100 Purchased new in 2005. Bike is in excellent condition. Low hours, extras, asking \$2700obo 209-834-1374

1982 - Honda XR-80 new engine,paint,plastic,tires,many new parts,my son out grew it great Xmas gift 500.00 209-531-1330

1995 - Blue Suzuki RF600R. 7K miles, showroom condition. Tank bag, stand, & helmets. Must sell. \$4K Firm and it yours! Does not look outdated. 209-833-3518

MUSIC INSTRUMENTS

Upright Glubransen Super Scale Piano, medium to dark wood (walnut or cherry?), 57Wx37Hx25D, with storage bench. \$700. 925-371-6882

GTX electric guitar. Solid body,

Neon green. Jackson style w/o case \$60 obo 925-240-7374

Wurlitzer Organ, 2 keyboards with bass pedals and bass buttons. Cherry wood, good condition, \$50 obo 925-292-2828

Antique Lester Spinet piano and bench, black stained solid wood, some broken keys. \$75 209-575-0565

C1862 House of Baldwin Ellington Piano Co. Cinn. Ohio upright piano w/bench & key. good condition \$500 OBO Jim 209-833-7604

PETS & SUPPLIES

Adorable 9 month old Australian Shepard Retriever mix needs loving home asap. Has shots. Call to arrange meeting. 925-371-4608

Aquarium, 35 gallon fresh water. Comes with everything including a wood stand with matching hood. \$100 obo. Located in Livermore. 925-456-8484

Bird House, handmade. Never used.Can bring to lab if interested. 6.00 510-537-7222

Free for the right home, a little Holland Lop bunny. She is a beautiful and sweet rabbit. 925-373-8317

Corn Snake. 2 Yrs. old, Friendly. Includes: tank, heat lamp, water bowl, bedding supplies, thermometer, climbing branch and shelter log. \$100.00 925-373-8104

Umbrella Cockatoo, 2 years old, With large cage, Needs LOTS of attention! \$1000 (Manteca) 209-825-4265

Akita Pups - Small Show kennel has 4 pups 2Boys & 2Girls. Beautiful, originally marked. Full health guarantee. Must be spayed/nuetered! 209-835-9673

Parrott Play Stand, for small to medium bird. Brand new. Paid 140.00, asking 60.00 obo 925-989-8059

Labrador Retriever Puppies - Black and Yellow, 4 Female, 3 Male. AKC, shots, declaws. \$550. 925-518-9282 or 925-895-5377

RECREATION EQUIPMENT

Gatorade 5 gallon cooler with recessed faucet. New in unopened box. \$20 925-648-0671

Weight bench. Heavy duty,flat /incline style with removeable preacher curl. To use with dbells or power cage.Unused! \$150 831-521-6606

Punching bag. Century brand,100lb bag with pro instructional DVD and adjustable rafter clamp to hang bag. Never used! \$85 831-521-6606

Kelty Joyride jogging stroller, in

good condition. Fold for transport, has built-in sunshade. Five-point harness. \$150 or best offer. 925-292-1595

02 Rossignol T Power Viper Ski (grey/drak blue)with bindings. 174cm. In good shape with 2 seasons of use. \$150.00 209-814-6723

Heavy bag. Century brand,100lb.,pro model in heavy duty nylon. Never used! Includes training DVD. \$75 925-980-7532

Portable VCR & 4 inch TV screen w/carrying case. Great for entertaining kids on the road. Plugs into cigarette lighter/110 wall outlet. \$40 obo 925-487-4655

RIDESHARING

Express your commute, call 2-RIDE for more information or visit <http://www-r.llnl.gov/tsmp>.

Modesto - 14 passenger van - captain chairs and reading lights. 8 - 4:30 work schedule. Reduce cost - pretax transit program and/or help with driving. 209-521-9047, ext. 2-5177

Solano County: Vallejo-Benicia - Solano County: Vallejo-Benicia Carpool seeks driver/rider. Schedule B 9/80s. Leave Benicia at 6am, 7am - 4:45pm work schedule. 707-246-4810, ext. 4-5589

Modesto - Ripon - 14 Passenger van. Immediate openings for riders and/or part-time drivers. 8:00 - 4:30 shift, M-F. 209-544-6411, ext. 2-2727

Valley Springs - Wanted: Carpool M-F from Valley Springs-Linden to Lab. Flexible hours. 209-887-2353, ext. 2-9899

SERVICES

Housecleaning in the Livermore, Pleasanton, Dublin, San Ramon area. Honest, dependable, references available. 925-443-1632

Construction services, licensed General Contractor,new const, remodels, painting, heating/Ac. Large and small jobs,free estimates. 925-570-0553

SHARED HOUSING

Livermore - Room for rent. 5 Miles from Lab. \$525 plus Shared utilities. No smokers or pets, please. 925-980-1613

TRUCKS & TRAILERS

1992 - Ford Explorer, 4X4, 170k mi. Grey int. White&Blue ext. AC/Heat, automatic win-

dows and locks. Runs good. New clutch Asking \$2700 OBO. 925-413-5034

1999 - Great condition/good for high-schooler: Dodge Ram 4x4. V8 5.9 liter,155k miles. Lots of extras;\$8500/obo. 925-294-5909

1998 - Plymouth Voyager 7 passenger 108K mile, air, radio, cassette, snow chains 2000 firm. 925-461-5045

1974 - International Scout II,runs but needs work. Many new & extra parts.\$500.Firm. 209-832-7566

1999 - Wilderness 721G UltraLite Travel Trailer in excellent condition. 21.5 ft long with all the ammenities plus it only weighs 3000 lbs. \$7500 OBO. 209-483-8719

1989 - GMC S-15 Jimmy, 4.3L V-6. Runs good, sold as is, registered non-op, no smog cert. \$300 209-239-3833

2001 - Chevy S10 Xtreme P/U, navy, 3/4 drop,88K miles. \$14,000. Extras: Magnum rims, 7in touch screen DVD/MP3 Player, Reverse Camera and more 209-612-9555

1953 - Willys CJ-3A No rust, 327 V8,Hard top,rollbar,new tires,extra parts,excellent condition,picture available, \$6000.00 925-516-5850

VACATION RENTALS

Cozy mountain cabin. 4 bedr, 2 bath, wood burning stove. Sleeps 10-12. 20 miles from Bear Valley Ski Resort. Plan ahead for snowy weather. 925-245-1114

North Lake Tahoe - North Lake Tahoe Carnelian Bay - Ski Lease Membership We need one more member to fill our group. Membership \$575 (1/7- 4/25). Call for info. 925-443-8948

SOUTH LAKE TAHOE - 3 Bedroom 2 Bath Chalet, nicely furnished, all amenities, close to ALL skiing,some holidays open,RESERVE NOW! 209-599-4644

Solana Beach/Del Mar - Oceanfront condo, deluxe 2 br., 2 1/2 ba., fully equiped, tennis, pool, jacuzzi, gated and covered parking, near San Diego attractions 925-443-2271

Cozy mountain cabin near Arnold. 4 bedr, 2 bath, fully equipped kitchen, wood burning stove. Sleeps 10-12. Plan for snowy weather fun. 925-245-1114

Oahu - Beach front property in Hauula, Hawaii. 3 bed/ 3.5 bath. 10% LLNL rate. Call for

more information. 209-605-9729

Maui, HI - Kahana Reef ocean-front 1BR/1BA condominium. Beautiful two-island view, oceanside pool, and BBQs. 925-449-0761

So Lake Tahoe - Tahoe Beach and Ski in So Lake Tahoe, 12/10/2005-12/16/2005 (time-share). Close to Heavenly. \$600 for the week or BO. 209-836-5764

Tahoe Donner 3br 2.5ba sleeps 10, no smoke/pets, close to all skiing/hiking & more 2 night min stay For info call: 209-838-2508

Cold Springs, CA. - Sleeps 8-10. 20 min to Strawberry Snow Park, Dodge Ridge, & Beardsley Reservoir. 30 min to Black Oak Casino. 925-240-1206

WANTED

Wanted: Floppy Eared Bunny - Christmas gift for child. Please call after 6:00 pm. If leaving a message, please mention only the ad not the Bunny! 925-449-4093

Wanted - Used men or ladies Mountain bike, Diamond Back or similar, will pay reasonable price. 415-543-3643

Looking to borrow or buy adult Santa suit and/or Elf suits. Need by December 16, 2005. 925-485-3510

Wanted used Apple Ibook laptop in working condition for a Jr. college student. 209-531-1527

Five of us looking for 2 or 3 other partners to buy Oakland Athletics 2006 Season tickets. Section 218, row 8 seats 9 and 10. Call Jeff to inquire. 925-443-8271

Livermore High School needs a Womens Lacrosse coach this spring. If interested contact at LHS 606-3299 or 925-980-5862

Donate used infant baby items for foster parent of newborn babies, baby clothing, bedding, crib, playpen, high chair, and toys. 209-914-2132

Acoustic drum set for Non-Profit. Computer and printer for poor, but determined, student. Tax deductible donation receipt. 625-382-4953

Looking for volunteer musical group for New Years Eve party at Livermore VA 12/31/05, 6:30-9:00 PM. May be able to negotiate small fee. 443-8293

Electric or gas concrete mixer, trailer type. 209-892-6186

GORDON BELL
Continued from page 1

tures with simulations ranging in size from 64,000 atoms to 524 million atoms. “These simulations allow us, for the first time, to examine the process of solid formation at high temperatures and pressure from the atomistic level. We can actually watch, atom by atom, as macroscopic grains grow out of the liquid and form structures,” Streitz said. “This allows us to better understand the properties of these metals and has important implications for the development of stronger metals, such as those that might be used for aircraft or automobile components as well as other applications.”

In what was the largest simulation of its kind ever undertaken, the team achieved a performance rate of up to 107 teraflop/s (trillion operations per second) with a sustained rate of 101.7 teraflop/s over a seven-hour run on the IBM machine’s 131,072 processors. This performance, using what will be a workhorse application for BlueGene/L to do work vital to the National Nuclear Security Administration’s (NNSA) mission, exceeds the best performance by any other computer on the industry standard LINPACK benchmark.

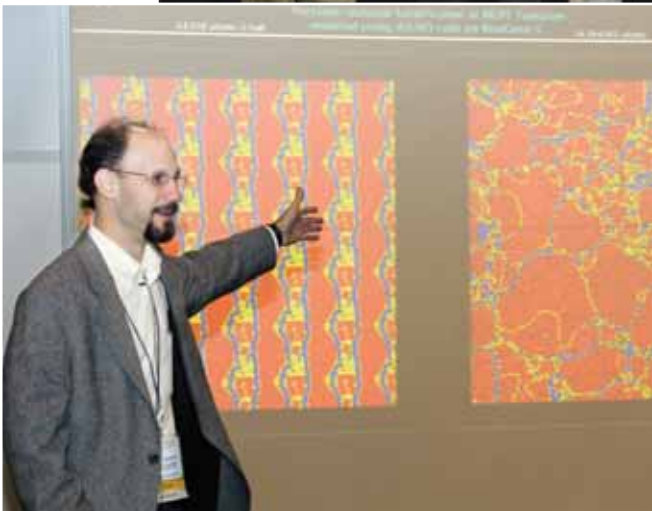
“BlueGene/L is ideally suited for precisely the kinds of molecular dynamics studies that the program needs to do at this time to better understand the behavior of materials at high temperature and pressure,” said Bruce Goodwin, associate director for Defense and Nuclear Technologies. “By working with IBM to develop this machine, we created simultaneously a solution that provides both the best sustained performance and the lowest cost per floating point operation. This is an ideal combination. Usually, one gets one or the other. In this case, we got both, and while we planned it this way, we are delighted that it worked out so well.”

Simulations of the solidification of metals such as tantalum and uranium under high temperatures and pressures provide valuable insights into the properties of these materials important to the



DON JOHNSTON/NEWSLINE

Above: The Lab team that won the 2005 Gordon Bell Prize from left: Jim Sexton of IBM, Kim Yates, Bronis de Supinski, Jim Glosli and Fred Streitz of LLNL with Bill Gropp of Argonne, who chaired the prize committee, and C. Gordon Bell.



Left: Physicist Fred Streitz presents his simulation work at the ASC booth power wall during SC05 in Seattle.

NNSA’s program to ensure the safety, security and reliability of the nation’s nuclear deterrent without underground testing — stockpile stewardship.

The simulations were conducted by NNSA’s Advanced Simulation and Computing (ASC) program, a tri-lab effort uniting the computing know-how of Sandia, Los Alamos and Lawrence Livermore national laboratories.

NNSA scientists need the detailed information about the properties of the materials in nuclear weapons that 3D simulations provide to understand the effects of aging on those weapons systems as they age well beyond their intended design life.

Bell was on hand at the Seattle ceremony to present the \$5,000 check that accompanies the award. Bell established the prize in 1987, putting up the money himself, to encourage innovation that would further develop parallel processing — the computer design philosophy that has

driven high performance computing since the 1980s. The prize, one of the most coveted awards in high performance computing, is administered by the Institute of Electrical and Electronics Engineering (IEEE) and presented at the annual supercomputing conference.

Two other Laboratory teams were among the finalists for this year’s prize: A team led by Andy Yoo and comprised of Edmond Chow and Keith Henderson of Livermore, William McClendon and Bruce Hendrikson of Sandia and Umit Catalyurek of Ohio State University; and a team led by Francois Gygi comprised of Erik Draeger, Bronis de Supinski and Robert Yates of Livermore, Franz Franchetti of Carnegie Mellon University, Stefan Kral, Juergen Lorenz and Christoph Ueberhuber of Vienna University of Technology in Austria, and John Gunnels and James Sexton of IBM’s Thomas Watson Research Center.

New crew in blue



JACQUELINE MCBRIDE/NEWSLINE

The Security Department’s Protective Force Division Training Group graduated 12 newly sworn security police officers on Nov. 22, shown here being congratulated by Captains Gary Abundis, Dan Judd and John Smalls.



**Newsline
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